

Laucks

Testing Laboratories, Inc.

940 South Harney St., Seattle, Washington 98108 (206)767-5060



Certificate

Chemistry, Microbiology, and Technical Services

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 8438

DATE: March 7, 1988

PO# M5152

REPORT ON: MATERIAL

SAMPLE

IDENTIFICATION: Submitted 02/23/88 and identified as shown below:

Acid Tank Sample 02/22/88 ID# 3200 - M5152

TESTS PERFORMED AND RESULTS:

Free and Combined Ammonia
Calculated As Ammonium Bifluoride, % ----- 1.5
(NH_4HF_2)

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

JMO:emt



This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

AKC-0015522

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AKC-0015524



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940 South Harney Street, Seattle, Washington 98108 (206)767-5060



Invoice

Chemistry, Microbiology, and Technical Services

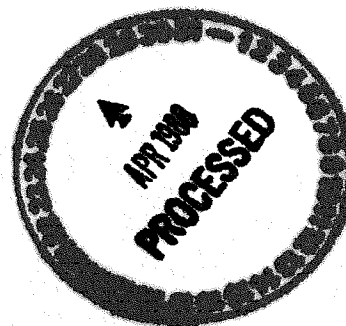
CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

INVOICE NO. 8438

DATE: March 7, 1988

PO# M5152

For the analysis of MATERIAL ----- \$25.00



Net 30 Days

The sole liability of these laboratories for these services, including claims for negligence, strict liability in tort or warranty, shall not exceed the amount of this invoice. Samples may be discarded after analysis unless otherwise requested.



AKC-0015525

Laucks

Testing Laboratories, Inc.

940 South Harney St., Seattle, Washington 98108 (206)767-5060



Certificate

Chemistry, Microbiology and Technical Services

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 8637

DATE: March 10, 1988

REPORT ON: MATERIAL

SAMPLE

IDENTIFICATION: Submitted 03/07/88 and identified as shown below:

- 1) ID# 3200-M5294
- 2) ID# 3600-M5294

TESTS PERFORMED AND RESULTS:



	<u>1</u>	<u>2</u>
Specific Gravity at 25°C	1.082	1.088
Total Acidity calculated as, % HNO ₃ (methyl orange end point)	10.4	6.8

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens
J. M. Owens

JMO:1aj



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AKC-0015526

DESCRIPTION	STATION	SITE
ALASKAN COPPER WORKS	A4010	6TH AVE SOUTH

DATE	TIME	TYPE	ID
871216	1400	G	13820

		CONC (mg/l)	LBS
SILVER	AG	< 0.0030	
ARSENIC	AS	< 0.0500	
CADMIUM	CD	< 0.0020	
CHROMIUM	CR	3.7000 *	VIOLATION
COPPER	CU	0.8130	
NICKEL	NI	6.2700 *	VIOLATION
LEAD	PB	< 0.0300	
ZINC	ZN	0.2490	
PH	PH	7.5000	

KEY

PH is in standard units.

TYPE

G	Grab sample.
SH02	Series hourly sample representing 2 hours.
CH24	Composite sample representing 24 hours.
CH00	Composite sample based on flow.

VIOLATIONS

#	Exceeded limits but not legal violation.
*	Legal violation subject to enforcement action.
\$	Legal violation - Slug violation.
SLUG	Concentrated discharge exceeding discharge limits by a factor of 10. Legal violation.

Laucks

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940 South Harney St., Seattle, Washington 98108 (206)767-5060



Invoice

Chemistry, Microbiology, and Technical Services

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

INVOICE NO. 8637

DATE: March 10, 1988



For the analysis of MATERIAL: -----\$80.00

Net 30 Days

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AKC-0015528

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Chemistry, Microbiology, and Technical Services



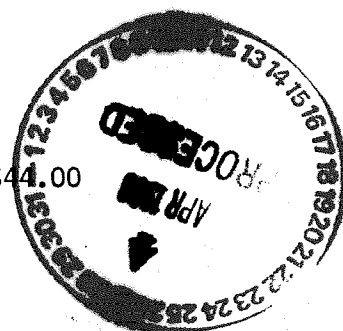
CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

INVOICE NO. 8638

DATE: March 11, 1988

For the analysis of WATER: -----

\$44.00



Net 30 Days

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AKC-0015529

FILE **Laucks**
Testing Laboratories, Inc.
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Certificate

Chemistry, Microbiology, and Technical Services

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 8638

DATE: March 11, 1988

REPORT ON: WATER

SAMPLE
IDENTIFICATION: Submitted 03/07/88 and identified as shown below:

ID# 3600-M5293 Metro Waste Discharge

TESTS PERFORMED
AND RESULTS:

parts per million (mg/L)

Chromium	0.29
Copper	0.062
Nickel	0.24
Zinc	0.50

Respectfully submitted,

Laucks Testing Laboratories, Inc.

Barbara Gleason

BG:1aj



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AKC-0015530

FILE

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Chemistry, Microbiology, and Technical Services

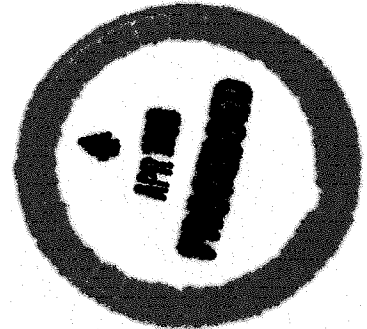
CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

INVOICE NO. 9172

DATE: April 11, 1988

PO# M5615

For the analysis of METRO DISCHARGE ----- \$44.00



Net 30 Days

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AKC-0015531

Laucks
Testing Laboratories, Inc.

940 South Harney St., Seattle, Washington 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services



Certificate

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 9172

DATE: April 11, 1988

PO# M5615

REPORT ON: METRO DISCHARGE

SAMPLE

IDENTIFICATION: Submitted 04/06/88 and identified as shown below:

ID# 3600-M5615

**TESTS PERFORMED
AND RESULTS:**

parts per million (mg/L)

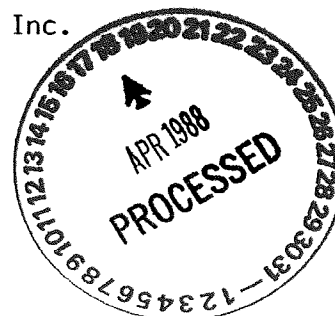
Zinc -----	0.72
Chromium -----	0.43
Copper -----	0.15
Nickel -----	0.56

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens
J. M. Owens

JMO:emt



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AKC-0015532